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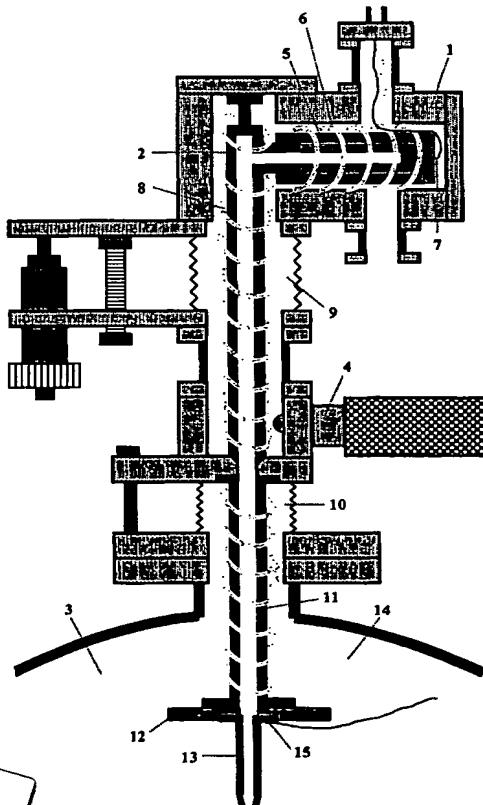
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*[Continued on next page]*

(54) Title: METHOD AND APPARATUS FOR IN SITU DEPOSITING OF NEUTRAL CS UNDER ULTRA-HIGH VACUUM TO ANALYTICAL ENDS



(57) Abstract: The present invention relates to a method for modifying the electronic properties of a surface to analytical ends, such as SIMS or electron spectroscopy, characterised in that it comprises in situ deposition of pure neutral cesium (Cs<sup>0</sup>), under ultra-high vacuum, said neutral cesium being enabled in the form of a collimated adjustable stream. The invention relates also to the special column designed for implementing the method and to the corresponding energy and/or mass analyser instrument.

2004/038395 A3



ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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## **INTERNATIONAL SEARCH REPORT**

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A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G01N23/225

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According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01N H01J C23C H05H G21K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>T. WIRTZ, B. DUEZ, H. -N. MIGEON, H.      SCHERRER: "Useful yields of MCs+ and      MCs<sub>2+</sub> clusters: a comparative study between      the Cameca IMS 4f and the Cation Mass      Spectrometer"      INTERNATIONAL JOURNAL OF MASS      SPECTROMETRY,      vol. 209, 2001, pages 57-67, XP001197305      cited in the application      page 58, left-hand column, line 19 -      right-hand column, line 22      page 66, right-hand column, last      paragraph; figure 1</p> <p>-----</p> <p>-/-</p>	1,3,4, 8-12,14, 15,17,18
Y		2,5-7,16

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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**\*A\*** document defining the general state of the art which is not considered to be of particular relevance

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"&" document member of the same patent family

Date of the actual completion of the international search  16 July 2004	Date of mailing of the international search report  30/07/2004
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Authorized officer  Wulveryck, J-M

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	T. MOOTZ, B. RASSER, P. SUDRAUD, E. NIEHUIS, T. WIRTZ, W. BIECK, H.-N. MIGEON: "Cation Mass Spectrometer: an Instrument Dedicazied to the Analysis of MCs+ Clusters. Description of the Instrument and Preliminary Result" 2000, PROCEEDINGS OF THE 12TH INTERNATIONAL CONFERENCE ON SECONDARY ION MASS SPECTROMETRY, ELSEVIER , AMSTERDAM , XP008032791 cited in the application page 233 - page 236	1,3,4, 8-12,14, 15,17,18
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Y	column 5, line 24 - column 7, line 3; figures 5,6	2,20
Y	GB 1 315 647 A (BALZERS PATENT BETEILIG AG) 2 May 1973 (1973-05-02)	20
A	page 2, left-hand column, line 28 - line 50; figures 1,2	2,19, 21-23
Y	M. KAMARATOS: "Adsorption kinetics of the Cs-O activation layer on GaAs(100)" APPLIED SURFACE SCIENCE, vol. 185, 2001, pages 66-71, XP002288601 page 66, right-hand column, last paragraph - page 67, left-hand column, paragraph 2	6,7

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